What is claimed is:

1. A solid state standard for spectroscopic readers comprising; an excitation source;

a microplate to orient the solid state standard;

an optical glass probe, coated with a material with an energy state that can be excited by an external source and which is shaped to fit into said microplate;

filters for selecting excitation and emissions wavelengths; and

a detection means integral with said microplate which senses if the reader is operating within pre-determined limits.

2. A solid state standard according to claim 1 wherein said coating material is a fluorescent.

3. A solid state standard according to claim 1 wherein said coating material is a chemical having a known absorption wavelength.

4. A solid state standard according to claim 1 wherein said excitation source is a lamp.

5. A solid state standard according to claim 1 wherein said detection means is a photomultiplier tube.

6. A solid state standard according to claim 1 wherein said detection means is a photodiode array.

7. A method of calibrating a spectroscopic reader with a solid state standard, comprising the steps of:

shaping a probe to fit into a microplate;

coating said probe;

spectroscopic reader will yield a non-fluctuating reading of relative fluorescence units when revolving at a gain of the detection device which is consistent with the peak setting of the instrument;

using a flourescent compound of known spectral point, generating a calibration curve of incrementally linear varying fluorescence coatings such that each point of the calibration curve represents one coated glass standard; and

generating a calibration curve to determine if the instrument is operating efficiently at a flourescent point.

8. A method according to claim 7 wherein said probe is coated with a flourescent material.

9. A method according to claim 7 wherein said coating material is a chemical having a known absorption wavelength.

10. A method of calibrating a spectroscopic reader with a solid state standard according to claim 7 wherein said detection device is a photomultiplier tube.

11. A method of calibrating a spectroscopic reader with a solid state standard according to claim 7 wherein said detection device is a photodiode array.

12. A method of calibrating a spectroscopic reader with a solid state standard according to claim 7 wherein said spectroscopic reader is a spectrophotometer monochromator.

13. A solid state standard consisting of glass coated with material which;

differs in concentration from one another linearly in a standard curve;

has an optical density which can be read in an absorption microplate reader; and

can determine if the reader can read the concentration at

standard curve points.

14. A method for calibrating a spectrophotometer monochromator comprising the steps of;

coating a cuvette with a material of a known absorbing wavelength;

placing said cuvette in the sample chamber;

scanning said monochromator from zero to its maximum absorbing optical density; and

reading the wavelength off said monochromator.

15. A method of calibrating a spectroscopic reader with a solid state standard to determine the maximum excitation and emission wavelength of a flourescent coated glass cuvette, said method comprising the steps of:

placing a flourescent coated glass cuvette with known maximum excitation and emission wavelengths into the chamber;

opening the excitation monochromator to bath the cuvette in white light;

adjusting the emission monochromator from red to violet until a peak is reached;

placing the calibration standard back in the sample chamber and setting the emissions monochromator to its peak value; and

scanning the excitation monochromator from red to violet until a maximum reading is determined for the excitation wavelength of the standard.

16. A method of verifying the operational condition of a luminometer, said method consisting of the steps of:

exposing the optical glass pellets of a flat bottomed microplate to direct sunlight; and

recording of a peak in the luminescence reading of the luminomator microplate reader, followed by a decay to background luminescence.

17. A standard according to claim 1, wherein said microplate contains at least one well.

18. A standard according to claim 17, wherein the microplate contains one, six, twelve, twenty-four, forty-eight, ninety-six, three-hundred eighty-four, or fifteen-hundred thirty-six wells.

19. A method for coating glass for use in a solid state standard comprising the steps of:

applying a primary layer of TiO_2;

applying one or more layers of SiO_2; and

applying a final layer of TiO_2;

wherein each layer is baked at 250 degrees Centigrade between coatings.

20. A solid state standard according to claim 13 comprising coated optical glass.

21. A solid state standard according to claim 13 comprising coated optical quartz.

22. A solid state standard according to claim 13 where the coating is a known flourescent, absorbent or spectroscopic compound.

23. A solid state standard according to claim 13 which operates with a microplate reader.

24. A solid state standard according to claim 13 for use with flourescent spectroscopy.

25. A solid state standard according to claim 13 for use with absorbent spectroscopy.

26. A solid state standard according to claim 13 for use with ultra violet spectroscopy.

27. A solid state standard according to claim 13 for use with visible spectroscopy.

28. A solid state standard according to claim 13 for use with Infra-red spectroscopy.

29. A solid state standard according to claim 13 for use with laser spectroscopy.

30. A solid state standard according to claim 13 for use with luminescence spectroscopy.